6. Fraction Addition

Program Name: FractionAdd.java Input File: fractionadd.dat

It is easy to evaluate arithmetic expressions that involve integers. But to evaluate fractions exactly is slightly more difficult. In this problem you will be given fractions that you will have to add and compare your result with another fraction.

Input
The input contains multiple test cases. The first line contains **T** the number of test cases. **T** lines follow, one for each test case. Each test case has a series of **F** fractions with '+' symbols between them, followed by the '?' symbol, followed by another series of **K** fractions. Each fraction is represented by its integer numerator, then a '/' symbol, and then its integer denominator. Every integer is separated from the preceding and following symbols by a space. You have to sum up the fractions before the '?' symbol and check to see if the resulting fraction **a/b** is greater than, equal to, or less than the sum of the fractions after the '?' symbol (**c/d**).

Constraints
1 <= **T** <= 10
1 <= **F, K** <= 5
1 <= numerator <= 30
1 <= denominator <= 30

Output
For every test case, print **a/b > c/d** or **a/b < c/d** or **a/b = c/d** where **a** and **b** are the integer numerator and denominator of the left-hand-side sum, respectively, and **c** and **d** are the integer numerator and denominator of the right-hand-side sum, respectively. The only spaces are before and after the equality or inequality symbols. Make sure you present the fraction in reduced form, with the numerator and denominator having no common divisors except 1. The fractions could be improper fractions where the numerator is greater than the denominator.

Example Input File
```
4
1 / 5 + 6 / 5 ? 1 / 1
4 / 5 + 2 / 1 + 1 / 3 ? 1 / 4 + 3 / 4 + 1 / 3
3 / 2 + 5 / 4 ? 5 / 3 + 10 / 8
1 / 10 + 2 / 10 ? 6 / 20
```

Example Output to Screen
```
7/5 > 1/1
47/15 > 4/3
11/4 < 35/12
3/10 = 3/10
```